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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/537,372	03/24/2000	LLoyd A. Groveman	2902/0G377	3747

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Darby & Darby P C
805 Third Avenue
New York, NY 10022

EXAMINER	
CHENCINSKI, SIEGFRIED E	
ART UNIT	**PAPER NUMBER**
3628	

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/537,372	Applicant(s) GROVEMAN ET AL.	
	Examiner Siegfried E. Chencinski	Art Unit 3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 28 July 2003.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-12,16-18 and 21-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-12,16-18 and 21-33 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10-2003

1. **Claims ~~1-33~~ 1-12, 16-18 and 21-33 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Kolb (Kolb, Robert W., Futures, Options, & Swaps, 3rd Ed., 1999) in view of Tull, Jr. et al. (US Patent 5,946,667), and further in view of Chance (Chance, Don M., An Introduction to Derivatives, 4th Ed., 1998).

Re. **Claims 1 & 33, Kolb** discloses a method for actively managing an account through volatility arbitrage and harvesting (Ch. 7, page 204, line 1, - page 217, line 13), comprising the steps of:

- A high degree of correlation to the underlying index (Ch. 4, pages 101-105); and
- a predetermined volatility differential relative to the underlying index (Ch. 8, pp. 227-233, 237-247);
    - performing a skew analysis on at least a portion of the equities in the tracking basket over one or more maturity periods to identify a first set of options each commanding a premium;
    - identifying a second set of options each of which has a relative implied volatility which is greater than its historical volatility in a given maturity period;
    - balancing the implied volatility percentage of the options in the first set against the relative implied volatilities of the options in the second set to identify a selection of options to sell;

- purchasing a long put against the underlying index for an amount which is not substantially greater than the premium raised
- (Ch. 4, Ch. 10, p. 295; Ch. 11, 313-316. Ch. 11, 304-346).

Kolb does not explicitly disclose

- establishing a tracking basket containing a plurality of equities, the equities in the tracking basket being included in an underlying index and together possessing.
- dynamically hedging the tracking basket using options, the hedging step including the steps of:
  - buying put options on the underlying index in an amount sufficient to cover the notional amount of the tracking basket at a cost, and
  - selling a selection of call options on a plurality of the equities in the tracking basket to raise premium in an amount greater than the cost of buying the put options.

However, Tull discloses establishing a tracking basket containing a plurality of equities, the equities in the tracking basket being included in an underlying index and together possessing (Tracking Basket: Col. 3, lines 35-40, Col. 3, line 67 – Col. 4, line 3. Underlying Index: Col. 6, lines 4-13).

Further, Chance discloses dynamically hedging the tracking basket using options, the hedging step including the steps of:

- buying put options on the underlying index in an amount sufficient to cover the notional amount of the tracking basket at a cost, and
- selling a selection of call options on a plurality of the equities in the tracking basket to raise premium in an amount greater than the cost of buying the put options.

<u>DEFINITIONS by Chance</u>:

<u>Dynamic Hedging</u>, p. 761 – An investment strategy, often associated with portfolio insurance, in which a stock is hedged by selling futures or selling Treasury bills in such a manner that the position is adjusted frequently and simulates a protective input.

Basket Options, p. 756 – A single option written on a prespecified combination of securities or currencies).

Notional Amount, p. 670 - Notional Principal – the value of spot transactions on which derivatives were based. In the every day trading sense, applicant's "notional amount" is the exact strike price of a put or call contract.

It would have been obvious to combine the disclosures of Kolb with those of Tull and Chance for the purpose of establishing a computer automated method and system of actively managing an account through volatility arbitrage and harvesting.

Re. **Claim 2, Kolb** discloses a method as in claim 1, wherein the establishing step comprises executing an optimization routine on a programmed computer against at least one predetermined constraint, the optimization routine compiling the tracking basket to include a set of equities and a quantity of each equity in the set (Ch. 7, page 207, line 23 -page 210, line 7).

Re. **Claim 3, Kolb** discloses a method as in claim 2, wherein the at least one predetermined constraint is that a prescribed percentage of the tracking basket consist of equities having a minimum volatility differential relative to the underlying index (Ch. 8, pp. 227-233, 237-247).

Re. **Claim 4, Kolb** discloses a method as in claim 3, wherein all of the equities in the tracking basket have a minimum volatility differential relative to the underlying index (Ch. 8, pp. 227-233, 237-247).

Re. Claim 5, Kolb discloses a method as in claim 3, wherein a second predetermined constraint is that the tracking basket be less than a predetermined percentage of the underlying index (Ch. 8, pp. 227-233, 237-247).

Re. **Claim** 6, Kolb discloses a method as in claim I, wherein the establishing step includes a regression analysis which results in a tracking basket that achieves an r^2 value, relative to the underlying index, above a predetermined value (Ch. 4, p. 103).

Re. Claim 7, Kolb discloses a method as in claim 6, wherein the r^2 value is 0.8 or higher (Ch. 4, p. 103).

Re. Claim 8, Kolb discloses a method as in claim 6, wherein the r^2 value is maximized (Ch. 4, p. 103).

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Re. Claim 9, Kolb discloses a method as in claim 6, wherein the establishing step further includes swapping equities into and out of the tracking basket and repeating the regression analysis until a tracking basket is identified that achieves the r^2 value above the predetermined value (Ch. 4, p. 101-105).

Re. **Claim 10,** Kolb discloses a method as in claim 1, wherein the establishing step results in a tracking basket which includes less than a predetermined percentage of the underlying index (Ch. 4, p. 101-105).

Re. **Claim 11,** Kolb discloses a method as in claim 10, wherein the predetermined percentage is 70%, whereby the tracking basket is not substantially identical to the underlying index (Ch. 4, p. 101-105).

Re. **Claim 12,** Kolb discloses a method as in claim 1, wherein the hedging step is performed in accordance with predetermined criteria (Ch. 4, p. 101-105).

Re. **Claim 16, Kolb** discloses a method of claim 1, including the additional step, prior to the step of buying put options, of selecting the put options so that the net delta of the tracking basket and the selection of options is below a threshold value (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316).

Re. **Claim 17,** Kolb discloses a method of claim 1, including the additional step, prior to the step of buying put options, of selecting the put options so that the net delta of the tracking basket and the selection of options is minimized (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316).

Re. **Claim 18, Kolb** discloses a method as in claim 1, wherein the hedging step comprises buying put options on a plurality of the equities in the tracking basket and selling call options on a plurality of the equities in the tracking basket (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316; Ch. 11, 304-346).

Re. **Claim 21, Kolb** discloses a method of claim 33, including the additional step, prior to the step of purchasing the long put, of selecting the long put so that the net delta of the portfolio is below a threshold value (Ch. 10, p. 295; Ch. 11, 313-316. Ch. 11, 304-346).

Re. **Claim 22, Kolb** discloses a method of claim 33, including the additional step, prior to the step of purchasing the long put, of selecting the long put so that the net delta of the portfolio is minimized (Ch. 1, pp.3-4; Ch. 10, p. 295; Ch. 11, 313-316).

Re. **Claim 23, Kolb** discloses a method of claim 1, wherein the step of dynamically hedging the tracking basket comprises a re-assessment of the dispersion of the tracking basket (C h. 4, p. 101-105).

Re. **Claim 24, Kolb** discloses a method of claim 23, wherein the re-assessment occurs periodically Ch. 4, p. 98-105).

Re. **Claim 25, Kolb** discloses a method of claim 23, wherein the re-assessment occurs in response to prescribed events (Ch. 4, p. 101-105).

Re. **Claim 26, Kolb** discloses a method of claim 23, wherein the re-assessment of the dispersion of the tracking basket comprises one or more of the following: rolling the hedge into a later maturity period, trading at least a portion of the hedge, and permitting at least a portion of the hedge to expire (Ch. 4, p. 101-105).

Re. **Claim 27, Kolb** discloses a method of claim 26, wherein the re-assessment is performed in accordance with predetermined criteria (Ch. 4, p. 101-105).

Re. **Claim 28, Kolb** discloses a method of claim 26, wherein the re-assessment includes:

1. performing a skew analysis on at least a portion of the equities in the tracking basket over one or more maturity periods to identify a first set of options each commanding a premium;
2. identifying a second set of options each of which has a relative implied volatility which is greater than its historical volatility in a given maturity period;
3. balancing the implied volatility percentage of the options in the first set against the relative implied volatilities of the options in the second set to identify a selection of options to sell;
4. buying put options on the underlying index in an amount sufficient to cover at least the notional amount of the equities in the tracking basket; and

5. selling the selection of options to raise premium in an amount greater than the cost of the put options bought in the buying step (Ch's 4, 10 & 11).

Re. **Claim 29, Kolb** discloses a tracking basket comprising a set of equities greater than one in which the equities in the set have, relative to an underlying index, a high degree of correlation to the underlying index and at least a predetermined volatility differential relative to the underlying index (Ch. 4).

Re. **Claim 30, Kolb** discloses a tracking basket as in claim 29, wherein the set of equities comprises less than a predetermined percentage of the underlying index (Supra).

Re. **Claim 31, Kolb** discloses a tracking basket as in claim 30, wherein the predetermined percentage is 70%, whereby the tracking basket is not substantially identical to the underlying index (Ch. 4).

Re. **Claim 32, Kolb** discloses a software program contained on a computer-readable medium which, when executed within a digital computer, causes the computer to:

a) access current price information on a designated underlying index, and each of the equities in a tracking basket established in accordance with prescribed criteria;

b) perform a skew analysis on at least a portion of the equities in the tracking basket over one or more maturity periods to identify a first set of options each commanding a premium;

c) identify a second set of options each of which has a relative implied volatility which is greater than its historical volatility in a given maturity period;

d) balance the implied volatility percentage from of the options in the first set against the relative implied volatilities of the options in the second set to identify a selection of options to sell;

e) identifying one or more put options which, together with the selection of options to sell, results in a net delta of a portfolio which includes the tracking basket, the selection of options to sell, and the identified put options which is below a threshold value; and

f) display on a monitor connected to the computer the selection of options to sell and the identified put options, whereby the software program automatically identifies a generally risk neutral portfolio (Page xiii, lines 1-9; Ch. 7, lines 23-33).

Response to Arguments

2. Applicant's arguments filed July 28, 2003 have been fully considered but they are not persuasive.

Re. Claim 1: Kolb fails to address:

1. A "tracking basket".

RESPONSE – Tull discloses a Tracking basket (supra).

2. The implementing of a 'strategy in which call options are sold against tracking basket components in order to raise premium "in an amount greater than the cost of buying the put options" which, in turn, is in "an amount sufficient to cover the notional amount of the tracking basket."'

3. 'fact that "the cost of buying the put option can be fully recovered through the selective sale of calls on stocks in a tracking basket."'

RESPONSE to 2 & 3

- Volatility arbitrage is a standard investment risk management strategy employing covered calls, taught by Kolb, Chance and many others. The call option is written to provide income through premium. Buying a put option at a strike price protects against downside risk, i.e. the risk of the price of a security dropping below a price level acceptable to the investor. The put is written to guarantee that one can put the portfolio to a buyer at a guaranteed floor price.
- Investors routinely use tracking baskets defined by themselves or chosen from the available major indexes (S&P 100, S&P 500, NASDQ 100, NYSE Dow Jones Transportation, etc.).
- It has been a standard practice to find prices of calls and puts where premiums coincide.

Using the standard industry practice documented by Kolb, Tull and Chance would have made it obvious at the time of Applicant's invention to write calls and buy puts on the same security, trading basket or index to in order to narrow the volatility range of such an individual stock or of any trading basket or index, and do it in such a manner as to have the costs of the puts covered through the sale of a sufficient amount of calls on select underlying securities.

Re. Claims 10 & 11: Kolb fails to address:

1. " a tracking basket that includes less than a predetermined percentage (such as 70 %) of the underlying index".

RESPONSE –

- This is a standard industry practice involving the investor determining how much risk due to volatility he wants to tolerate, since the greater the risk the greater the volatility and the greater the chance for both upside and downside potential.
- The percentage composition of the portfolio determines the volatility. The smaller the tracking basket the greater the volatility. It is therefore obvious to specify the percentage as part of a risk management strategy.

2. "how one goes about constructing a tracking basket".

RESPONSE – The construction of a basket is obvious. One can choose two or more securities using any criteria one cares to choose and call this a trading basket. One also has the option of choosing any one of the many ready made baskets offered by the established exchanges (supra).

Re. Claim 32: Kolb fails to address:

1. A computer program which performs the steps claimed in claim 32.

RESPONSE – One can write a computer program to automate investment steps, including the monitoring of security prices and consequent buy and sell activities.

2. 'the program of claim 32 in which there is a tracking basket, in which there are different sets of options identified which having "a relative implied volatility which is

greater than its historical volatility in a given maturity period," or of any balancing of "the implied volatility percentage of the options in the first set against the relative implied volatilities of the options in the second set to identify a selection of options to sell. "

RESPONSE – This is just a matching of appropriate options over the time/price table in such a way as to choose those options with the greatest opportunity to sell and realize gains.

3. a 'step of "identifying one or more put options which, together with the selection of options to sell, results in a net delta of a portfolio which includes the tracking basket, the selection of options to sell, and the identified put options which is below a threshold value."

RESPONSE –

- Volatility is the change in the range between bid and ask prices.
- Minimizing the volatility means finding the bid and ask prices which are the closest to each other, a standard practice.
- Next, minimizing volatility means increasing the number of securities in a trading basket. It is a law of nature that volatility decreases inversely to the number of securities in a basket, i.e. volatility decreases as the size of the portfolio increases. The deltas being the change in the option price with respect to the underlying asset price will be adjusted based on the volatility of the option sold.

4. 'the identification of "a generally risk neutral portfolio"'.

RESPONSE – This is a portfolio where the call premium covers the cost of the put so as to provide a portfolio protected by a downside floor by the put and thus become risk neutral.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Siegfried Chencinski whose telephone number is 703-305-6199. The Examiner can normally be reached Monday through Friday, 9am to 6pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Hyung S. Sough, can be reached on 703-308-0505.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703) 308-1113.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks Washington D.C. 20231

or faxed to:

(703) 872-9306	**[Official communications**; including After Final communications labeled "Box AF"]
(703) 746-9601	**[Informal/Draft** communications, labeled "PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7^{th} floor receptionist.

SEC

October 20, 2003

HYUNG SOUGH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600